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REMARKS

ON THE

UTILITY

OF A

NEW-INVENTED PATENT MACHINE,

FOR

CLEARING GRAIN FROM THE STRAW,

INSTEAD OF

THRESHING IT WITH THE FLAIL.

BY

WILLIAM SPICER DIX, OF *EXETER, DEVON.*

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1797.

[PRICE ONE SHILLING.]

MVSEVM
BRITAN
NICVM

TO

CHARLES SLINGSBY DUNCOMBE, ESQ.

THE FOLLOWING SHEETS

ARE MOST RESPECTFULLY DEDICATED,

BY

HIS MOST OBLIGED, OBEDIENT,

AND DEVOTED HUMBLE SERVANT,

WILLIAM SPICER DIX.

REMARKS, &c. &c.

BY this Machine one man, or a woman, can clear as much grain in one day, as can be done with the flail in ten days, without bruiſing, injuring, or leaving any in the ears, to which may be fixed a winnowing machine, to be worked by the ſame man or woman, at ſame time, and by the ſame movements, or the two machines may be worked ſeparately, which I ſhould recommend in preference to working them together, as requiring leſs purchaſe.

If the farmers follow the directions herein recommended, they will be enabled to preſerve and carry to market nearly every grain of corn grown on their farms, which I believe will be univerſally admitted, has never yet been the good fortune of any man to have done, but on the contrary, it is well known, that immenſe quantities of grain have been waſted and deſtroyed by the very ineffectual methods hitherto practiſed by threſhing with the flail; by pitching to load, carrying, unloading, ſtacking, and removing from the ſtacks to the barns to be threſhed.

Incredible quantities are eat or deſtroyed by birds, rats, mice, or other vermin.

The quantities of grain that will be ſaved by the farmer's following the methods here recommended, will amount to many millions of buſhels annually; ſufficient to ſupply ſeveral hundred thouſand perſons with bread daily, allowing each perſon to eat the fourth of a quartern loaf every day throughout the year; which will be found to be more than double the quantity ever imported into Great Britain in any one year. The value of this ſaving to the nation will amount to upwards of one million five hundred thouſand pounds annually. Foreign grain is very ſeldom, if ever, found to be near ſo good as grain grown in England, and is often, by long voyages, heated and ſpoiled before its arrival.

If, by introducing this Machine to the world, and recommending the methods here laid down to be practiſed by the farmers, to enable them to ſave annually ſuch an immenſe quantity of corn, I ſhould be ſo fortunate as to ſee it univerſally adopted, I ſhall think myſelf happy in having been of ſome ſervice to my country.

I believe it will not be denied that the preſent mode of threſhing with the flail is not only very ineffectual, and ill-ſuited to ſuch valuable and tender grain, but that it is not the beſt and moſt effectual way of clearing corn from the ears or ſtraw, ſince it is a well-known fact that very conſiderable quantities are left in the ears by the threſhers, and a great deal is bruiſed and cruſhed by the flails, beating it upon a hard oaken floor, which is loſt to the farmers and the public; beſides which, by threſhing with the flail, the reed or ſtraw is greatly injured, and not ſo valuable and proper for thatching, Dunſtable manufactories, collar makers, litter, forage, &c. &c. as when not broken, which cannot poſſibly be the caſe if the methods I here point out are adopted.

It is in ſearch of corn horſes leave the rack to eat their litter.

I truſt it will be allowed that clearing corn from the ears by friction, clearing every grain, injuring none, clearing ten times more in a day than any man can threſh with the flail, of preſerving the reed unhurt, is not only the moſt effectual method, but is alſo the moſt advantageous to the farmers, ſince by uſing this Machine, and following the methods recommended, they will be able to carry to market nearly every grain grown on their farms.

I am perfectly aware of the difficulty there may be at firſt in prevailing on farmers in general to alter any long-eſtabliſhed cuſtom relating to agriculture, particularly among the inferior claſs, who may not like to be put out of the beaten track, and may content themſelves by thinking the old method good enough for them; and I moſt certainly would not have attempted ſo arduous a taſk, was I not convinced that gentlemen of more enlightened underſtanding (who farm their own eſtates) will be induced to try the experiment, by uſing this Machine, and adopting the methods recommended, which, when by practice the great utility and advantages are proved to their ſatisfaction, and the farmers ſee their landlords' and neighbours' crops yield much more grain in proportion to the number of acres ſown, than their own, they will be anxious to follow ſo laudable an example, when I flatter myſelf they will find it ſo much for their intereſt as never to depart from it again, and that I ſhall be ſo happy as to ſee this Machine univerſally adopted throughout Great Britain.

I have had the honour to converſe and correſpond with many gentlemen of the firſt diſtinction and reſpectability in the knowledge of agriculture on this ſubject, all of whom have uniformly agreed with me in opinion, and encouraged me to proceed with my plan, aſſuring me that nothing is more wanted than ſuch a Machine, as will clear all the corn from the ears, without leaving any behind, which has hitherto been invariably the caſe, to the manifeſt loſs of the farmers in particular, and to the public at large.

However difficult it may be to perſuade farmers in general to quit any long-eſtabliſhed cuſtom or practice in agriculture, when firſt recommended to them, I am fully convinced, when they have *once tried* the Machine, and methods I now recommend, they never will ſuffer the flail to touch their corn again. I am ſtill more convinced they will adopt this mode of threſhing, ſince I am informed, by the beſt authority, that the flail is now ſcarcely heard of in Scotland, and is much out of uſe in many other parts of Great Britain; that threſhing and winnowing machines are getting more and more into uſe daily.

As the Machine I now offer to the Public will be ſold at the moderate price of thirty and thirty-five guineas, I preſume every farmer will be enabled to purchaſe it; but ſhould this be an obſtacle to the lower claſs of farmers, two, three, four, or more, living in the ſame pariſh, may join together in the purchaſe, as the Machine is ſo ſmall, and requiring but little room, may be eaſily removed from one barn to another, as it may ſuit their convenience. The principal working parts being made of materials which are not liable to wear, or to be out of repair, I may venture to ſay, the Machine will laſt far beyond the probable life of any man, the firſt coſt of which will be ſaved by the labour alone in ſix weeks uſing it, independent of the immenſe ſavings of grain, by clearing the whole from the ears, and by adopting the methods of getting in the corn from the fields, and preſerving it in barns or granaries from birds, rats, mice, and other vermin. Theſe are objects of the utmoſt importance, and well worthy the moſt ſerious notice and attention of every gentleman (farming his own eſtates) and every farmer in the kingdom.

A great deal may be written on the advantages and infinite utility of this Machine, and the methods recommended, but as it may tend to confuſe the ideas of ſome farmers, and make this treatiſe too long and too expenſive, I will content myſelf with giving as clear and conciſe a deſcription of them as I poſſibly can, and in pointing out the beſt methods which occur to me of getting in the harveſt from the fields, and preſerving the corn in the barns or granaries. I will firſt point out ſome of the loſſes ſuſtained by the farmers from the time the corn is reaped, to the time of carrying it to market.

By the preſent mode, the farmer carries his corn home in the ſtraw, which requires ten times more time than by my method, and fills his barn with much ſtraw and little grain; he leaves the ſtraw or ſtubble ten or twelve inches long in the field, and hovels it afterwards, at additional expence of labour, and by carrying a ſecond time.

By my method, the ſtraw is not carried into the barn, but is ſtacked in the field, and may be carried home at leiſure, or ſold on the ſpot, and carried off by the purchaſer.

By my method it cannot be entangled, as it now is, by threſhing, which adds to the loſs of time and expence, before it can be drawn into lengths, and bound in nitches or truſſes.

By my method the ſtraw is not broke, and conſequently, when uſed for thatching, the rain runs clear off from it, and not into it, as at preſent, which cauſes it to rot, and the roofs covered with it come to repair in leſs than half the time they would otherwiſe do. When it is not broken, it is of much more value for Dunſtable manufactories, collar-makers, litter, fodder, &c. &c.

The ears being cut off, the reed laid on the roofs of houſes, barns, linhays, walls, &c. leaves no temptation for rats or mice, which are often found in great plenty in thatched roofs, by which they are ſoon deſtroyed by the burrows theſe vermin make in them.

By the preſent mode, that part of the ear called the natural chaff is loſt to the farmer, which is the ſweeteſt and moſt nouriſhing for horſes and cows, (I mean that part which contains the corn) conſequently this loſs to the farmer compels him to cut his prime ſtraw at additional expence, which is not ſuch nouriſhing food as the natural chaff is; beſides which, the quantity thus ſaved, I preſume, is more than all the farmers now cut, by ſaving all the chaff from every ear.

The ear, which by the old method is left on the ſtraw, and not being clean threſhed, ſtill contains grain when uſed for thatching, and when laid (an old thatch particularly) retains the rain, dies and rots, conſequently occaſions the barn to want repair the oftener; but the ears being cut off, which I know has been practiſed of late years by ſome gentlemen of my acquaintance, who have informed me they have experienced the good effects of, their barns not having come to repair ſince. It has been generally remarked, that after laying new reed on old thatch, the roofs have been covered with green wheat a few days after the firſt rain, which is a convincing proof of the great careleſſneſs of the threſhers, or rather of the preſent very ineffectual mode of threſhing with the flail.

When the corn has ſtood long enough in the ſhocks to be ſufficiently dry and fit to carry home, (at which time it is moſt eaſily ſhed) the ſheafs are pitched careleſsly on horſes backs in crooks; and by paſſing through lanes too narrow to admit of carts or waggons, immenſe quantities of corn are ſhook out, and a great deal is pulled off by the brambles growing in the hedges; or when pitched and loaded in carts or waggons, a very large proportion is ſhook out by the jolting of the carriages in paſſing furrowed fields and rough roads, which may, ſoon after a ſhower of rain, be ſeen growing wherever the carts or waggons have paſſed.

In Devonſhire, horſes with crooks are more generally uſed than in any other county, for carrying corn, hay, &c.

The farmers, to prevent theſe great waſtes as much as they can, dare not leave their corn as long in the ſhocks as is neceſſary for it to harden and be ſufficiently ripened, fearing to increaſe the ſhedding, but carry it much ſooner than they ought, which cauſes it to ſweat in the barns or ſtacks, and in ſome degree to diminiſh; hence it often happens that we meet with mow-burnt corn.

If the barn or ſtack happens to be a mile or more from the field, the loſs by the continual jolting of the carriages muſt be greatly increaſed, as alſo the quantities pulled off by the hedges; whereas, by cutting off the ears in the fields into ſacks, all the ſheddings and waſtes, by pitching, carrying and unloading, ſtacking, and removing from the ſtacks to be threſhed, will be totally prevented and ſaved, or the ears may be cut into cloſe-bodied waggons or carts.

The facts here ſtated, I preſume, are too well known to every gentleman and farmer, who has given himſelf time to reflect, and who has made any obſervations on the preſent careleſs mode of getting in the corn, to be contradicted; and the immenſity of the ſavings, that muſt unavoidably be made, by adopting the methods herein recommended, which exceeds all poſſible calculation, I truſt will induce every gentleman and farmer to give them all due attention they may deſerve; and if the methods I have pointed out are carried into effect with proper care, I am fully convinced any one of the ſavings will be ſound amply to repay any extra expence of cutting off the ears in the fields.

Firſt, By preventing any of the grain from being ſhed.

Secondly, By enabling the farmer to carry ten times more grain in the ears in ſacks without the ſtraw, in one waggon, at one load, than can poſſibly be carried with all the ſtraw.

Thirdly, By carrying as much corn in one day, as is now carried in ten days, by which the farmer will ſave nine days labour of men and horſes, and as many days chances of bad weather, which very often interrupts the harveſt, increaſes the expence of getting it in, and injures the corn.

Fourthly, The corn being in the ears without the ſtraw, and the ears being rough, will lay light, and not ſo cloſe together, but will admit the air to paſs freely through them, as through ſo many flews, which muſt effectually prevent the corn from ſweating and ſhrinking, as it now too often does in the ſtraw, and not being ſtacked, we ſhall have no more *mow-burnt corn*; the corn is to be ſhot from the ſacks into the barns or granaries, and not left in them.

It is natural to conclude, that as the corn begins to ripen in the fields, the ſap falls back into the ſtalks or reed, which retains ſo much moiſture, as to make it lay ſo cloſe and heavy on the corn in large quantities in ſtacks or barns, and cauſes it to heat and ſweat much more than it ſhould, and very often occaſions it to be *mow-burnt.*

Fifthly, By keeping the corn in the ears in leſs room, the farmers will be the better enabled to guard it from being devoured and ſpoiled by rats, mice, and other vermin, which it now is to a moſt incredible amount, even beyond all poſſible calculation.

Two gentlemen of character and veracity informed me that a farmer in Devonſhire had the whole of one large ſtack of wheat eat in one year by mice. Mice eat more corn than rats, ſince the farmers deſtroy the rats by ferrets, but a ferret cannot follow a mouſe.

Sixthly, By preſerving the reed unhurt, it is rendered of much more value for thatching, collar-making, Dunſtable manufactories, &c. &c.

Seventhly, Preſerving all the natural chaff, inſtead of cutting the prime ſtraw or reed for horſes and cows.

Eighthly, By clearing every grain from the ears, which, as I have obſerved before, I believe no farmer has ever yet been ſo fortunate as to have been able to do, which he now may, by uſing the Machine I recommend; and by adopting all the methods I herein propoſe, he will find an increaſe of produce very far exceeding his moſt ſanguine expectations.

I preſume every farmer keeps an account of the number of acres he ſows, and the number of buſhels of corn he ſells every year; if he has not ſo done hitherto, he ought to do it; and if the methods I recommend are adopted, and carried with proper care and attention into effect, my Machine uſed, and the farmer ſows the ſame number of acres, he will be able to meaſure the quantity grown and ſold, and thereby aſcertain the difference of the produce, which has never yet been in his power to do; and by keeping a correct account of the expence from the time he begins his harveſt, to the time of carrying the corn to market, he will ſee the advantages gained by the uſe of this Machine, and following the methods recommended.

Nothing more is neceſſary to be done, to produce the great advantages I have mentioned, than to obſerve the following directions:

Firſt. Let the reapers make the bands, and lay down the corn when reaped as they now do. (The corn muſt be reaped and not bagged, which entangles it.)

Secondly. Let as many women and children as may be found neceſſary follow the reapers to bind for them, inſtead of their binding for themſelves, as they now generally do. Let theſe women and children place it in their hands as they do when gleaning for themſelves, and draw all the ears as even and as near in height as they can, in the ſame manner as when bound in nitches or bundles for thatching; then bind it in ſmall ſheafs with two bands, one of which to be as near the ears as poſſible, the other about the middle, by which no ears will be left below the top band.

I preſume two or three women or children will be enough to attend each reaper.

Thirdly. The ſheafs are to be put in ſhocks as at preſent, and when fit for carrying, the ears are to be cut off into ſacks with a curved knife, ſomewhat in the ſhape of a ſickle, or with a common chaff-cutter.

If farmers would ſow their corn with drill plows, it would grow much more even, and the ears would then be very eaſily and expeditiouſly cut off ſtanding in the ground, and the ſtraw might then be reaped or mowed at leiſure, which is the practice in foreign countries.

The labour ſaved by uſing this Machine will amply repay the expence of the children, if they were to cut off the ears by hand in the barn, independent of the immenſe ſavings of grain.

I think there is nothing very alarming in theſe directions, nor would it be found very difficult to carry them into effect. Nothing more is neceſſary to be done to enable the farmer to reap all the advantages here pointed out, or to carry all the grain grown on his farm to market; very little practice will ſoon reconcile and accuſtom the labourers to it.

Fourthly. If the corn is reaped, and the ears are afterwards cut off from the ſtraw in the field and ſacked, the ſame women and children may bind the ſtraw with the bands before made; when it may be ricked in the field, or carried home at leiſure.

The additional labour and expence of the extra women and children, is not worth one moment's conſideration, when compared to any one of the advantages gained by this mode of getting in the corn ſo very expeditiouſly; ſaving the immenſe quantities that will otherwiſe be inevitably loſt; preſerving it from birds, rats, mice, and other vermin; and clearing every grain from the ſtraw, at a tenth part of the expence, by uſing this

Machine, that it now coſts by threſhing with the flail. Another advantage is the time gained, in being able to clear expeditiouſly ſo large a quantity on any emergency.

Fifthly. The idea of preventing birds, rats, mice, and other vermin, from eating the corn, may at firſt appear very myſterious, but I truſt it will be done away, when it is recollected that the ears being cut off, will be contained in ſo ſmall a ſpace, as to enable the farmer to depoſit them in a common barn or granary, which may eaſily be ſecured againſt rats, mice, &c. by fixing tin plates (through which they cannot penetrate) round the walls of the barns or granaries next the floors; or large ſafes may be made and fixed on poſts, in or out of the barns; or may be ſuſpended to the beams in the barns, by ropes or chains, with tin funnels in the ſhape of extinguiſhers, which ſhould be fixed at the top of the poſts with their mouths downwards; or to the ropes or chains with their mouths upwards, to prevent the rats and mice from running up the one, or down the other.

Such ſafes may be built at very little expence, not worth notice, when compared to the value of the grain now conſtantly eat and deſtroyed by theſe vermin, which can never afterwards be the caſe.

Barns or granaries may be built with Mr. Edmund Cartwright's patent bricks, which are not ſo expenſive as common bricks, ſince more than half the labour is ſaved in laying them; a nine-inch wall, built with theſe bricks, is equal in ſtrength to an eighteen-inch wall of common brick; they are double dove-tailed, and the bond is ſo ſtrong, no weight can ſeparate it; nor do I think any rat or mouſe can penetrate through them. Barn and other floors laid with theſe bricks will be perfectly ſecured from vermin.

It may be objected by ſome, that by adopting the uſe of Threſhing Machines, the labour of the threſhers will be leſſened, which I admit muſt be the caſe in that particular; but I contend that that labour is amply made up, by the labour of cutting off he ears, which may be done by their wives and children,—(the latter now are ſeldom employed, but who, after a little practice, will be able to cut off the ears as expeditiouſly as grown people,)—while their fathers may be employed to better advantage to

them.

themſelves; and by clearing *all* the corn from the ears, ſaving *all* the ſheddings, and preventing *any* from being eat and ſpoiled by birds, rats, mice, &c. and alſo preventing it from being *mow-burnt*, ſaving the ſtraw from *injury*, and preſerving *all* the chaff, &c.; and alſo in the *price* of corn, which, it may be fairly preſumed, will be much *lower*, from the abundant *additional quantity* brought every year to market, occaſioned by the ſaving; and though the price of grain will be leſs than at preſent, the farmers will be the principal gainers, by the quantities they muſt hereby ſave.

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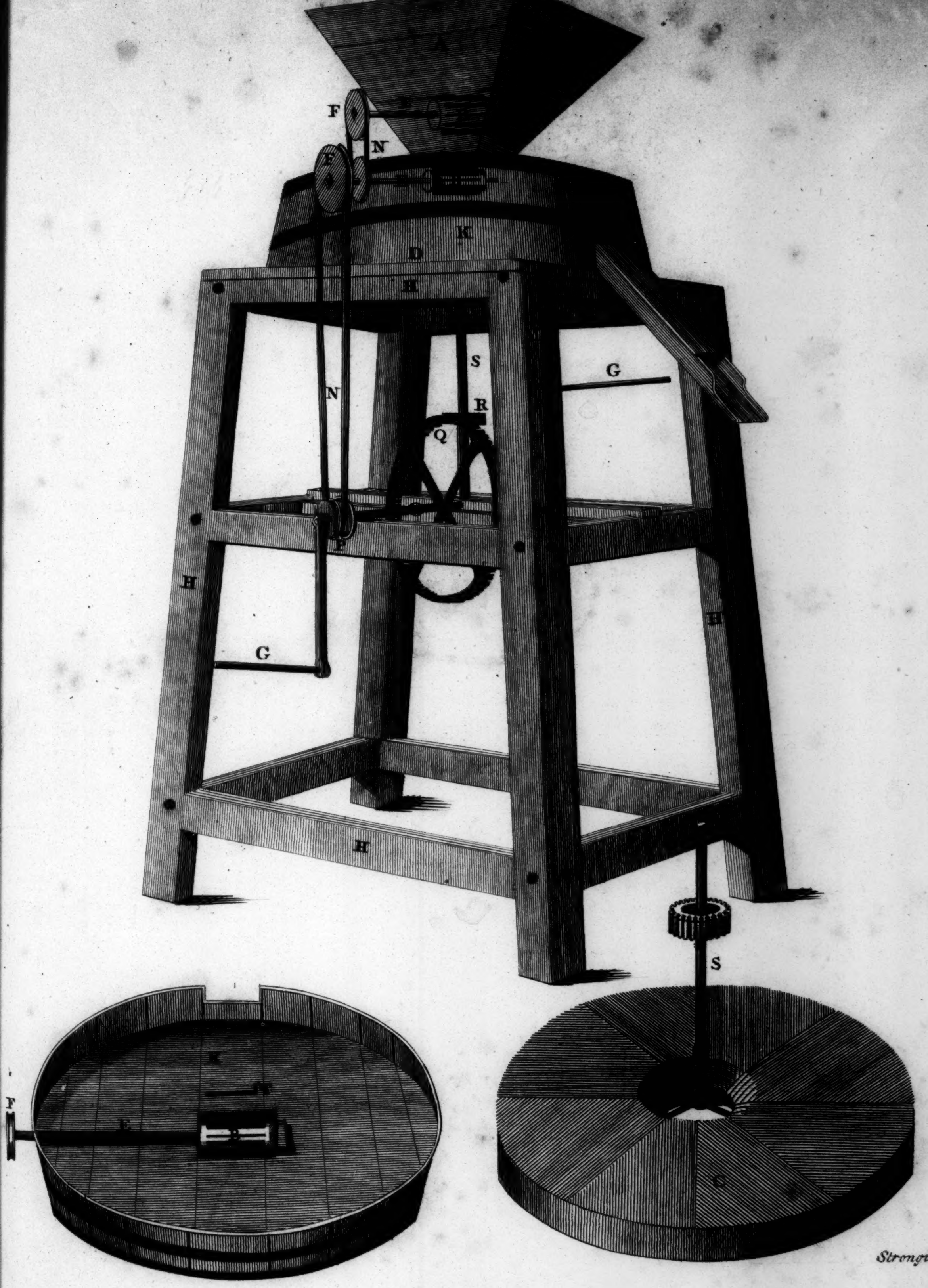
DESCRIPTION OF THE MACHINE.

A, A HOPPER, into which the ears of corn are put, to be conveyed to the table.
BBB, Two ribb'd rollers.
C, The rubber.
D, The table.
EEE, The axis on which the ribb'd rollers are fixed.
FFF, The pullies on the axis.
GG, Are two winches, or handles.
HHHH, The frame.
I, The ſpout.
K, A tub.
L, A hoop.
NN, Bands, ſtrops, or chains on the pullies E and P.
O, Axis, on which is fixed the wheel Q.
P, The pulley on axis O.
Q, The wheel fixed on axis O.
R, The pinion-wheel fixed on the ſpindle of rubber, C.
S, The ſpindle on which the rubber is fixed.
T, The regulator.
U, A ſpring fixed to the tub K.

B L



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